

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Plot 8 AUM Site

Navajo AUM Northern Region

Prepared by:

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Contract: W91238-06-F-0083

12767.063.496.1111

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Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 634**Map ID:** N28**CERCLIS:** NNN000909038**Navajo Abandoned Mine Land Reclamation Program:** NA-0918, NA-0902**Local name / Aliases:** Rattlesnake Mines; VCA Plot 6; Rattlesnake Group; Plot #6; Rattlesnake Incline; VCA West Reservation Plot 6**Chapter and local area:** Teec Nos Pos Chapter**County:** Apache **State:** Arizona**Lat/Long:** 36.899298397 N / -109.2700102 W**Nearby road and highway:** Highway 160 **Local Post Office:** Teec Nos Pos**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land**☒**Public lands**☐**Private**☐**Tribal Fee Land**☐**Bureau of Land Mgmt**☐**Allotment**☐**State**☐**Fee land**☐**Subsurface Mineral Rights:**

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Vanadium Corp. of America from 1943 to 1944, 1948 to 1952, 1954 to 1956, and 1962 to 1968, Earl Saltwater from 1951 to 1952, Leo Redhouse from 1955 to 1956, Thomas Clani from 1955 to 1956, and Capitol Seaboard Corp. from 1958 to 1959. No other historical ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None**Estimated volume of mine waste onsite:** 150 yd³

Part II Summary of radiological readings

Highest gamma radiation measurement:

182,766 counts per minute (cpm)

Describe any other radiological measurements:

A total of 3,409 gamma radiation measurements were collected from the mine site, ranging from 6,560 cpm to 182,766 cpm. Measurements collected in the vicinity of the waste debris were found at levels up to approximately 30,000 cpm, near the adit at levels up to approximately 15,000 cpm, and downstream from the adit at levels of approximately 60,000 cpm. The measurements are represented in Figures 1 and 2.

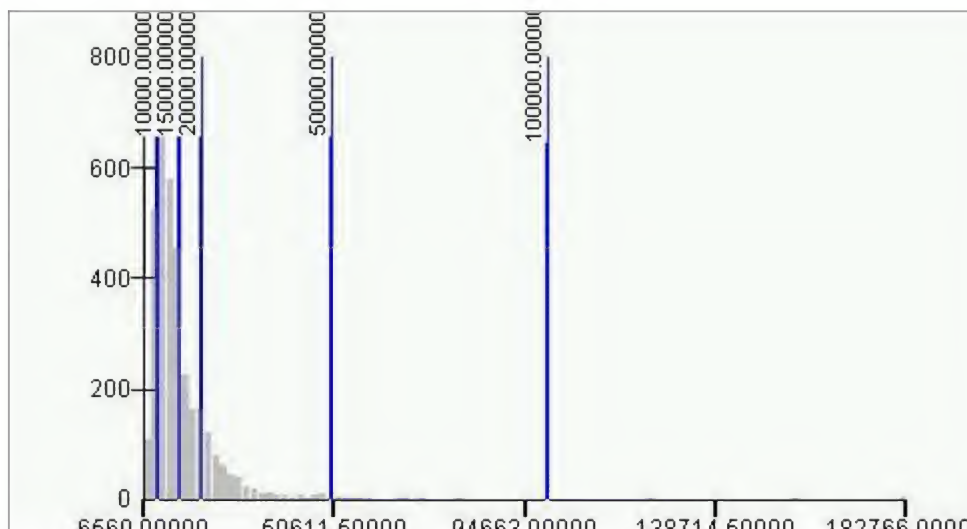
Background Locations

#1 9,746 cpm

Average background = 9,746 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	3409
Minimum:	6560.00000
Maximum:	182766.00000
Sum:	53468237.00000
Mean:	15684.43444
Median:	12900.00000
Standard Deviation:	11717.69258

Part III Status of Reclamation and Mine Waste

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0918, 0902

NAMLRP Mine features: 7 Rim Strip / Pits, 2 Prospects, 11 Portals

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

Soil sealed adit labeled "20" 10' x 3'

Waste Piles

15'x45'x6' waste rock pile with mining debris

Pits

None

Shafts

None

Other Debris and Mine Features

Various wood mining debris throughout site; 2' diameter hole with corrugated metal sleeve, approximately 15' deep; reclamation diversion channel along entire S edge of site

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: Clark housing compound (3 houses, many other structures) approx 0.1 mi N of site, John housing compound (3 houses, 3 structures, horses) approx 0.15 mi E of site

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s):

Consistent with background levels

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: Well at Clark house, 0.1 mi N of site

0.25 miles to 4 miles: None

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Plot 6 mine consists of an area of 143,948.72 m². The mine was identified as being operational from 1943 to 1968. Historical documents showed the operator of the mine as Vanadium Corp. of America from 1943 to 1944, 1948 to 1952, 1954 to 1956, and 1962 to 1968, Earl Saltwater from 1951 to 1952, Leo Redhouse from 1955 to 1956, Thomas Clani from 1955 to 1956, and Capitol Seaboard Corp. from 1958 to 1959. While operational, the mine had a total reported production volume of 14,956 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Plot 6 **Chapter:** Teec Nos Pos

Decision Criteria

Is there an unreclaimed waste pile at the site? Yes

At what distance from the waste pile is the nearest residential structure located? 0.25 mi

At what distances from the waste pile are there potential drinking water sources? 0.25 mi

Is there a reclamation cap or sealed adit in place at the site? Yes

Is the cap/seal functionally intact? Yes

Is the cap/seal sufficiently degraded to create a concern about releases? None

At what distance from the cap/seal is the nearest domestic structure located? 0.1 mi

At what distance from the cap/seal is the nearest domestic drinking water source? 0.1 mi

Summary of emergency response factors

None

Summary hazard ranking system factors

None

Summary of reclamation factors

Sealed adit; reclamation channel; unreclaimed waste

Part VI Photos



Photo 1. Plot 6 site



Photo 2. Plot 6 site, mining debris



Photo 3. Plot 6 site, waste pile



Photo 4. Plot 6 site, lined hole



Photo 5. Plot 6 site, Clark house well



Photo 6. Plot 6 site, Clark house

Part VII Contacts Reports and Information

Name: Stanley Edison (928) 871-6861

Eugene Esplain (928) 871-7331

Title or official role (if any) Navajo EPA Superfund Program

Address___PO Box 2946, Window Rock, AZ 86515

Information provided Lead Regulatory Agency

Name: Margaret and George John 505.406.5987 or 505.716.6228

Title or official role (if any) Local residents

Information provided General background information for the area

Name: Henry Tso

Title or official role (if any) Local residents

Information provided General background information for the area

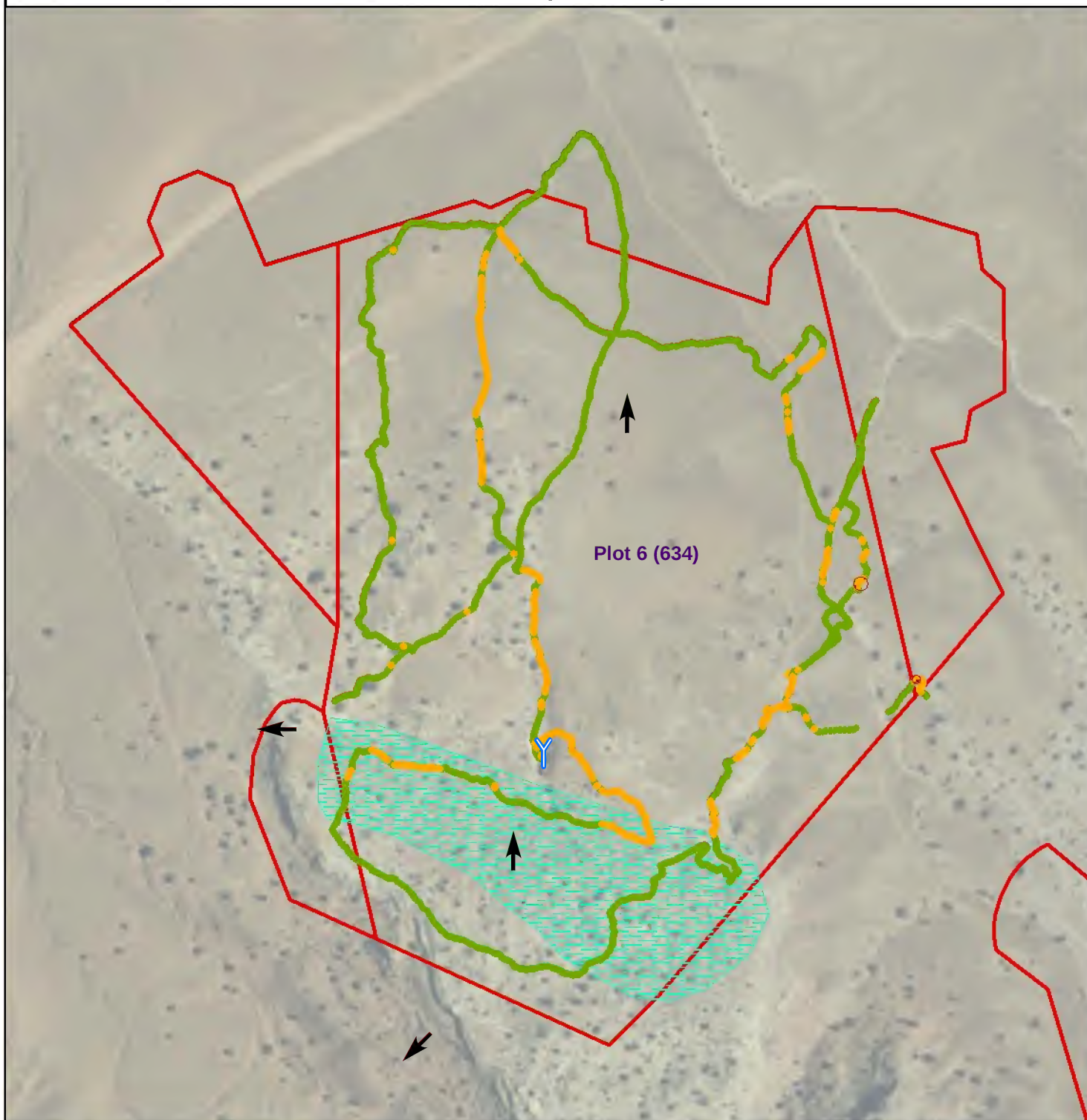
Name: Harry Clark 928.205.1331

Title or official role (if any) Local Resident

Address___PO Box 1071 Teec Nos Pos AZ, 86514

Information provided Son of Betty Clark, a local resident who had a hogan removed in 2000 due to high levels of radiation,

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Plot 6 (634)
Teec Nos Pos Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 06/2010
Measured as counts per minute (cpm)

Average background = 9,746 cpm

➔ General Direction Down-Slope

▭ Mine Claim Boundaries

Y Observed Adit

▨ Observed Reclamation Cap

▨ Observed Waste Pile

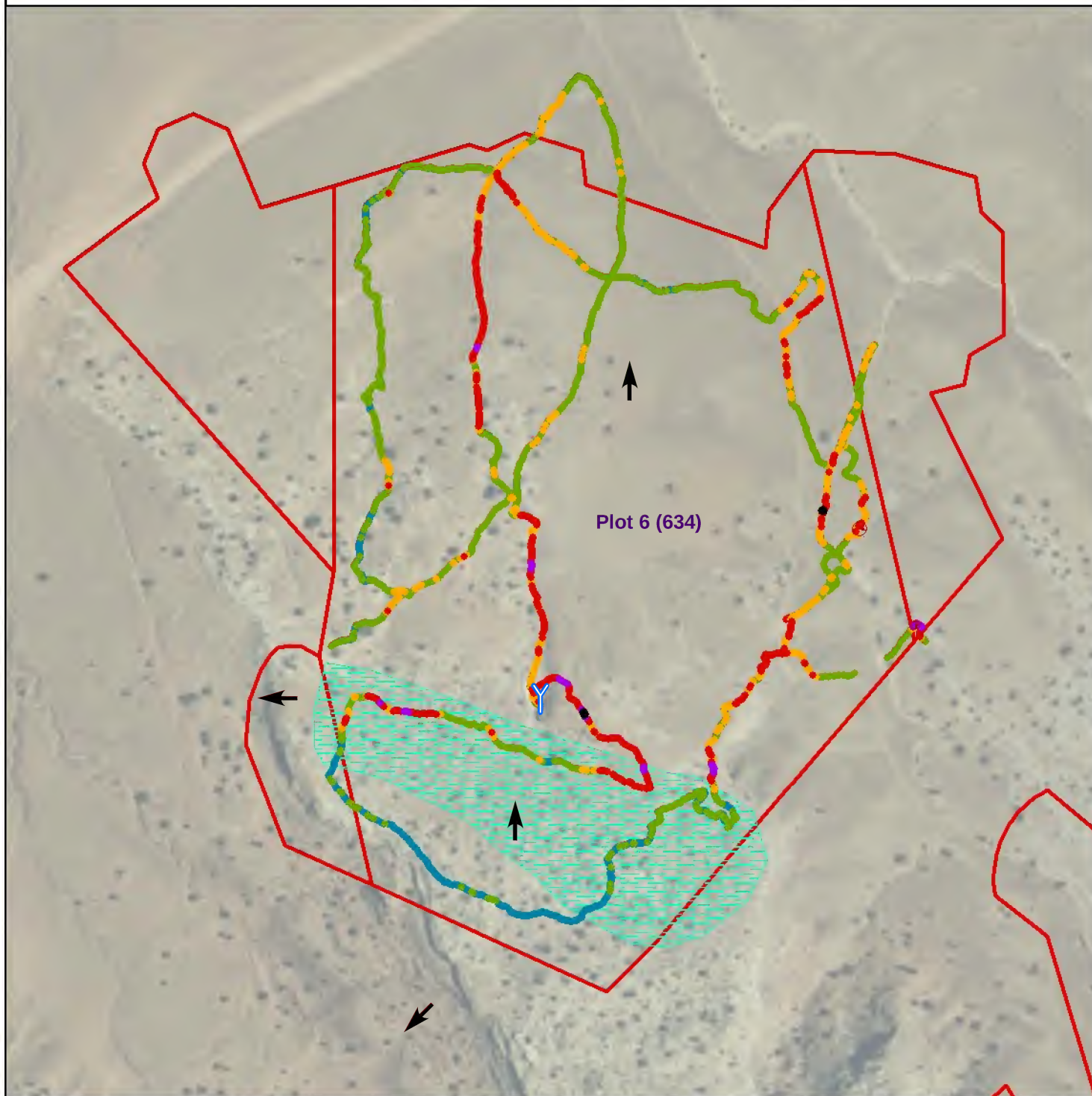


0 400 Feet



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Figure 2 - Gamma Radiation Measurements
Plot 6 (634)
Teec Nos Pos Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

- ➔ General Direction Down-Slope
- ▭ Mine Claim Boundaries
- Y Observed Adit
- ▨ Observed Reclamation Cap
- ▨ Observed Waste Pile

Gamma survey conducted 06/2010
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